

IN THE ABSTRACT

✓ Please replace the abstract as follows:

Zipper is the time-synchronized frequency-division duplex implementation of discrete multi-tone (DMT) modulation. Two communicating Zipper modems transmit DMT symbols simultaneously with a common clock. ~~The Zipper scheme implies that every carrier, in the total set of carriers in the DMT signal, is exclusively chosen to be used for either the up-stream or the down-stream direction.~~ When all transmitters are time synchronized, the near end cross-talk (NEXT) and near end echoes injected into the received signal are orthogonal to the desired signal. The present invention provides [[s]] a telecommunications transmission system using zipper and having at least two VDSL systems. Each [[of]] VDSL system comprises a pair of zipper modems communicating over a cable transmission path. ~~The two VDSL systems employing a common cable.~~ The telecommunications transmission system is adapted to handle zipper transmission transmitted over the common cable; at least partly mitigates NEXT; and permits transmissions in a first VDSL system which are asynchronous with transmissions in a second VDSL system